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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,890	10/11/2005	Tai Jin Kim	KIMT3004/REF	4447
23364	7590	01/22/2008	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			LAWRENCE JR, FRANK M	
			ART UNIT	PAPER NUMBER
			1797	
			MAIL DATE	DELIVERY MODE
			01/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/552,890

Applicant(s)

KIM, TAI JIN

Examiner

/Frank M. Lawrence/

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17 and 20-22 is/are rejected.
- 7) ☒ Claim(s) 16, 18 and 19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
- Paper No(s)/Mail Date ____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 58, 86 (figure 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 10 recites the limitation "the second moisture filter" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. Claim 10 should be amended to depend from claim 9 to overcome this rejection.

5. Claim 12 recites the limitation "the adsorbent" in line 1. There is insufficient antecedent basis for this limitation in the claim. It appears that claim 12 should be canceled.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 2 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Pinkerton (4,491,459).

8. Pinkerton '459 teaches an oxygen generator comprising a membrane stack (14) for generating an oxygen-enriched gas, a line (18) for transporting the gas to a first conical water separator (20) with a drain (23), a second water separator (35) connected to the outlet of the first water separator, and a discharge line (40) connected to an outlet of the first water separator (see figure 1, col. 2, line 48 to col. 3, line 49).

9. Claims 1-6 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by the Korean patent publication (KR 20-0300343).

10. KR '343 teaches an oxygen concentrator comprising a membrane or adsorbent oxygen enrichment device, a transfer line for transporting enriched oxygen to a conical water separator (42) with a solenoid drain valve (44), a sterilizer housing with an inlet connected to the water separator outlet, and a sterilizer outlet connected to an oxygen discharge line (see figures 6b, 7a, 10, 14). A control panel (12) is used to electronically operate the drain valve, and can be connected to the oxygen discharge conduit (94, 96).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 7-9, 11, 13, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over KR '243 in view of Aaltonen et al. (4,886,528).

13. KR '243 discloses all of the limitations of the claims except that the water condenser is located near the discharge nozzle, that the transfer line is at least 1 meter long, and that the condenser includes moisture filters that retain condensed water in the device. Aaltonen et al. '528 disclose a moisture trap with a first filter covering the inlet for allowing the passage of condensates, and a second filter covering the outlet for preventing the passage of condensates out of the trap (see figures, abstract, col. 3, lines 15-55). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the water separator of KR '243 by including moisture trapping filters in order to prevent vaporized moisture from passing out of the device. Absent a proper showing of criticality or unexpected results, the transfer line length and placement of the discharge nozzle are considered to be design choices that would have been routinely optimized by one having ordinary skill in the art in order to provide a sufficiently compact device. The type of membrane filters used are not clearly disclosed by Aaltonen et al. '528, however it is submitted that one skilled in the art would have known to use any well-known membrane arrangement for gas/liquid separation.

14. Claims 15, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinkerton '459 in view of Aaltonen et al. '528.

15. Pinkerton '459 discloses all of the limitations of the claims except that the first and second water separators include porous moisture filters that retain condensed water in the device. Aaltonen et al. '528 discloses a water trap as described in paragraph 13 above. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the water separators of Pinkerton '459 by including moisture trapping filters in order to prevent vaporized moisture from passing out of the device. The type of membrane filters used are not clearly disclosed by Aaltonen et al. '528, however it is submitted that one skilled in the art would have known to use any well-known membrane arrangement for gas/liquid separation.

Allowable Subject Matter

16. Claims 16, 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claims 10 and 12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional references listed on the attached PTO-892 form disclose oxygen concentrators and water separators.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Frank M. Lawrence/ whose telephone number is 571-272-1161. The examiner can normally be reached on Mon-Thurs 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Frank M. Lawrence/
Primary Examiner
Art Unit 1797

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